

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

FOR FURTHER ACTION  
See paragraph 2 below

International application No.  
PCT/EP2005/050274

International filing date (day/month/year)  
21.01.2005

Priority date (day/month/year)  
23.01.2004

International Patent Classification (IPC) or both national classification and IPC  
C07C213/08, C07C215/06, C07C215/20, A61K31/165

Applicant  
SPEEDEL EXPERIMENTA AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

10/587150  
PCT/PTO 24 JUL 2006  
International application No.  
PCT/EP2005/050274

**Box No. I Basis of the opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2005/050274

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**Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

PCT/EP2005/050274

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

- D1: WO 02/40007 A (NOVARTIS AG; NOVARTIS-ERFINDUNGEN VERWALTUNGSGESELLSCHAFT M.B.H.; HEWIT) 23 May 2002 (2002-05-23)
- D2: EP-A-0 519 433 (HOECHST AKTIENGESELLSCHAFT) 23 December 1992 (1992-12-23)
- D3: RADDATZ P ET AL: "RENIN INHIBITORS CONTAINING NEW P1-P1' DIPEPTIDE MIMETICS WITH HETEROCYCLES IN P1" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 35, no. 19, 18 September 1992 (1992-09-18), pages 3525-3536, XP002050635 ISSN: 0022-2623
- D4: ALLIKMETS K: "ALISKIREN SPEEDEL" CURRENT OPINION IN INVESTIGATIONAL DRUGS, PHARMAPRESS, US, vol. 3, no. 10, 2002, pages 1479-1482, XP009017210 ISSN: 1472-4472
- D5: WOOD J M ET AL: "Structure-based design of aliskiren, a novel orally effective renin inhibitor" BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 308, no. 4, 5 September 2003 (2003-09-05), pages 698-705, XP004447169 ISSN: 0006-291X

1. The present application relates to amino alcohols (I) and (Ia); pharmaceutical preparation comprising them and their use in the preparation of pharmaceutical compositions having renin-inhibition action.
2. D1-D5 disclose amino alcohols useful in the treatment of renin-inhibition related diseases.

**Novelty**

3. The subject-matter of claims 1-9 is novel in the sense of Art. 33(2) PCT. None of the available documents of the prior art discloses compounds of formulae (I) or (Ia). The

present claimed compounds differ from those known in the prior art in the relative position of the amino and alcohol groups. Hence, the use of the present claimed compounds in the treatment of renin-inhibition related diseases is novel as well.

Inventive step

4. The subject-matter of claims 1-9 cannot be considered to involve an inventive step in the sense of Art. 33(3) PCT.
  - 4.1. Due to the facts that a) in all the prepared compounds  $X_1$  is  $\text{CH}_2$ ;  $X_2$  is  $\text{CO}$ ;  $R_3$  and  $R_4$  are hydrogen; both  $R_5$  together are isopropyl and  $R$  is a phenyl group substituted by a meta-methoxyalkoxy group and furthermore b) in view of not having activity data providing an indication of which compounds have been found active, there is no evidence of the activity of the present claimed compounds. Hence, there is no proof of having solved the technical problem of providing renin inhibitors and therefore, an inventive step cannot be acknowledged. Inventive step can only be acknowledged if activity data are provided showing which compounds have been found active and inventive activity would only be acknowledged for a scope of compounds covered by the data provided. Hence, if data is only provided for the compounds prepared in the description, then the claims should encompass only compounds with  $X_1 = \text{CH}_2$ ;  $X_2 = \text{CO}$ ;  $R_3$  and  $R_4 = \text{hydrogen}$ ; both  $R_5$  together = isopropyl and  $R = \text{phenyl group substituted by a meta-methoxyalkoxy group}$ .

Further comments

5. The term "prodrug" used in claim 1 and in the description renders unclear the scope of the protection sought, contrary to Art. 6 PCT. This term should not have been used in drafting the description and the claims.
6. Features introduced by terms like "such as" have no limiting effect on the scope of the claim including them (see PCT Guidelines, C-III, 4.6). The presence of such non-limiting features is however detrimental to the conciseness of claims 3 and 5, contrary to Art. 6 PCT.
7. The last two lines at page 10 and the first two lines at page 11 are vague and imprecise,

- rendering therefore unclear the scope of the protection sought, contrary to Art. 6 PCT. These lines should not have been introduced in the description.
8. The use of the word "about", especially in connection with numerical ranges, is generally regarded as rendering the determination of the exact scope of the range difficult. When used in a claim as well as in the description, this results in lack of clarity, contrary to Art. 6 PCT. Therefore, the description should not have been drafted using this word.
  9. The use of the word "etc." in the description renders unclear the scope of the protection sought, contrary to Art. 6 PCT.
  10. When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims.
  11. In order to facilitate the examination of the conformity of the amended application with the requirements of Article 19 (2) and 34(2)b PCT, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based.

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.